

What is claimed is:

1. An illumination-type rotary variable resistor comprising:

(a) a housing including:

a round bottom plate;

5 a cylinder attached to an inner radius of the bottom plate,
and protruding in a first direction along a center axis of the
cylinder, and

a cylindrical outer wall surrounding the bottom plate,
and protruding in the first direction;

10 (b) an annular insulating substrate housed in the housing facing the
bottom plate, the annular insulating substrate being provided with a resistor film and
an LED conductive film on a surface which is facing in the first direction;

(c) an insulating resin operating knob including:

15 a cylindrical operating member having a through hole
passing through in the first direction, and being rotatably fitted
with an outer radius of the cylinder, and

a flange attached to the operating member at a side of
a second direction being an opposite direction to the first
direction, the flange being provided with a resistor slider and an
20 LED slider on a face which is facing in the second direction;

(d) a cover attached to the housing and covering the flange; and

(e) a surface-mount LED fitted at an end of the through hole in the
second direction;

wherein the resistor slider slidably and resiliently contacts the resistor
25 film, a first contact of the LED slider resiliently contacts an electrode of the surface-

mount LED, and a second contact of the LED slider slidably and resiliently contacts the LED conductive film.

2. The illumination-type rotary variable resistor as defined in Claim 1,
5 wherein the end of the through hole in the second direction is formed conforming to an outline of the surface-mount LED, and a part of the end in the second direction is flattened so as to anchor the LED.

3. The illumination-type rotary variable resistor as defined in Claim 1,
10 wherein the resistor film is formed annularly centering on a center axis of the annular insulating substrate, a cross point of a line passing the through hole along the first direction and the insulating substrate exists between an inner-radius end and an outer-radius end of the resistor film and the LED conductive film is disposed on the outer radius of the resistor film concentrically.

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4. The illumination-type rotary variable resistor as defined in Claim 3,
wherein the LED conductive film is disposed deviating with a rotating direction thereof against the center axis of the insulating substrate, with respect to the resistor film, for an angle equivalent to that formed by the contact of the resistor slider and
20 the second contact of the LED slider with respect to the center axis of the insulating substrate.

5. The illumination-type rotary variable resistor as defined in Claim 1,
wherein a plurality of the second contacts of the LED slider are provided for the LED

conductive film, and the plurality of the second contacts resiliently contact the LED conductive film.

6. The illumination-type rotary variable resistor as defined in Claim 1,
5 wherein paddings are provided at three points at minimum on an outer face of the cylinder at a position in one of the first direction side and the second direction side, and at three points at minimum on an inner face of the operating member at a position in a direction side opposite to the one of the direction sides; the paddings being provided at adjacent positions with equal center angles to an center axis of the
10 cylinder, and the cylinder and the operating member contacting at the paddings.

7. The illumination-type rotary variable resistor as defined in Claim 1,
wherein a transparent material is fitted in the through hole at a portion in the second direction side of the LED.

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